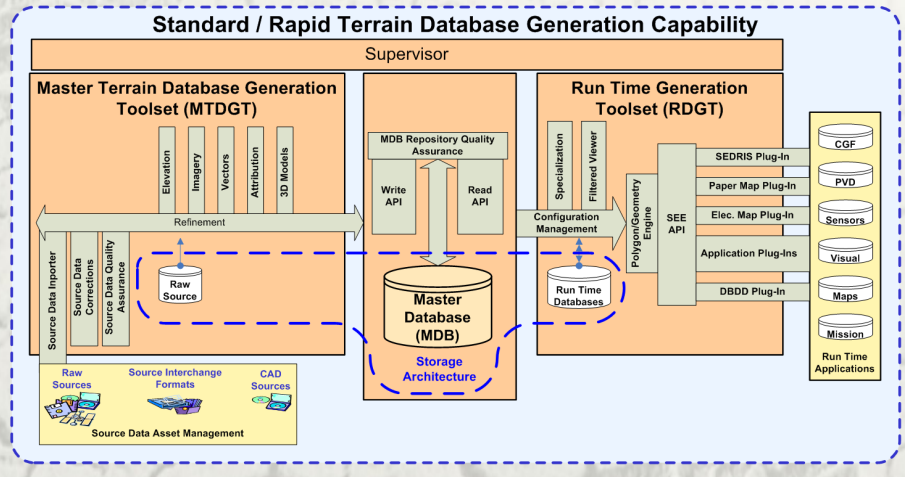
STDGC Fact Sheet

Standard/Rapid Terrain Database Generation Capability



Benefits

- Standard/Rapid Terrain Database Development supports training, contingency planning and mission rehearsal
- Correlated terrain databases across LVC domains
- High fidelity terrain databases that support Chemical, Biological, Radiological, Nuclear and High Explosive (CBRNE) effects simulation (Future)
- Urban operations, complex and dynamic terrain
- Significant cost savings through database reuse by multiple, virtual simulators
- Supports Live-Virtual-Constructive (LVC) including gaming
- Supports Interoperability with correlated virtual databases across multiple platforms
- Common Products

Description and Capability

- Develop tools and processes (STDGC) to create a non-proprietary, open format, image generator (IG) independent, Synthetic Environment Master Database (MDB)
- Produce correlated runtime databases for training, mission planning and rehearsal in the Live, Virtual, Constructive (LVC) Training Environment (TE)
- Develop Synthetic Natural Environment visual representation of atmospheric and dynamic environment effects, depending on IG capability, that will be interoperable within the LVC TE (Future)
  - Dynamic Environment—approximate visual effects from simulation (e.g., munitions, mobility, plowed fields, rubbled buildings)
  - Atmospheric Effects—e.g., precipitation, wind speed and direction, storms, natural light conditions, and temperature
- Other activities include development of urban terrain database insets, sensor algorithms, and visual models
- Develop the Army's capability to generate, maintain, use and re-use M&S Terrain Databases
  - By developing a "process driven" approach that is flexible and dynamic to available source data and changing requirements
  - Cost effective and on-demand
  - Support a variety of applications for the Warfighter
- SE Core DVED is transforming the Army's database process from a proprietary, contractor dependant, unique terrain database development paradigm to a capability to generate a contractor independent master database of simulation ready geo-spatial data that can produce, on demand within hours, runtime databases in support of the Army's training and mission rehearsal requirements for multiple simulation systems
- Master database generation throughput capability (notional fidelity, given adequate source data) :
  - Requirement: 96 Hr = 32,400km^2 at a feature density equivalent to DTED 3 with 6.25km^2 at a feature density equivalent to DTED 5 urban inset (surge capability)
  - Objective: 72 Hr = 1,000,000km^2 at a feature density equivalent to DTED 1 with 90,000km^2 at a feature density equivalent to DTED 3 with 2,500km^2 at a feature density equivalent to DTED 5 urban insets

Common Virtual Component (CVC) Development

- Improved interoperability and cost savings to the customer by standardization of:
  - Dynamic environmental representations (atmospheric, dynamic terrain, CBRNE effects)
  - Common Sensor Models (CSM)
  - Common Moving Models (CM2)

Database Production Center

- The Army has established a central database production center that serves as the centralized facility for the production of all virtual run-time databases created under the SE Core program
- The central database production center is located in Orlando, Florida
- Additional database production capacity is planned

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